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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/352,612	07/13/99	VAN VLIET	A 102222.01

OLIFF AND BERRIDGE PLC
P O BOX 19928
ALEXANDRIA VA 22320

IM52/1105

EXAMINER	
KILKENNY, T	
ART UNIT	PAPER NUMBER

1733

Handwritten number 13

DATE MAILED: 11/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Handwritten: Remailed

Office Action Summary

Application No.

09/352,612

Applicant(s)

VAN VLIET ET AL.

Examiner

Todd J. Kilkenney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-18 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 13-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/202,069.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Election/Restrictions

1. Applicant's election with traverse of Group I in Paper No. 4 is acknowledged.
The traversal is on the ground(s) that upon allowance of Group I, Group II should be rejoined. This is not found persuasive because Group I is not in condition for allowance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1 – 18 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. The term "about" in claim 1 is a relative term, which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. "About" renders the angle of the bonding lines indefinite. Does "about" mean 69° to 111° or does "about" mean 60° to 120°?
5. The term "about" in claims 15 and 16 is a relative term, which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term "about"

renders the comparison of the grid's strength to the tensile strength in the lengthwise direction of the strips indefinite.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 – 7^{and 13-18} are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Kobiella and Romanek. The rejection as stated in paragraph 9 of the Office Action mailed December 22, 2000 is maintained and hereby incorporated by reference.

As to newly amended claim 1, the primary reference Yang teaches a grid constructed of molded pre-stretched polymer strips wherein the strips are fully stretched so as to arrange long bonds of polymer molecules to achieve high tensile strength. One skilled in the art would appreciate and understand that the polymer strips of Yang are stretched in a lengthwise direction to form the long bonds of polymer molecules and hence the high tensile strength is formed in the lengthwise direction.

It is recognized that the two secondary references (Kobiella and Romanek) teach bonding lines that are parallel to the lengthwise direction of the zones of overlap and not bonding lines at an angle of 70° - 110°. However, it would have been obvious to one of ordinary skill in the art at the time of the invention that upon instituting the pattern

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bonding (i.e. the bonding lines) as taught by the secondary references in a lengthwise direction lines in relationship to one grid strip, the bonding lines would then be placed at a perpendicular angle (70° - 100°) to the overlapped grid strip of Yang. Furthermore, as written claim 1 only requires the alternative of bonding points and does not specify any relationship of the bonding points to the lengthwise direction of the strips.

As to claims 15 and 16, Yang teaches forming a grid having high tensile strength because each longitudinal and transverse strip of the grid has been fully stretched. Yang further teaches that the most prominent advantage of the grid is that it has a uniform tensile strength because all the strips have been fully stretched (Column 4, lines 29 – 54). One skilled in the art would therefore recognize that the grid would have the same tension as the strips (i.e. uniform tensile strength throughout) and that this tensile strength would be higher in the lengthwise direction due to all the strips being prestretched to arrange long bonds of polymer molecules in the longitudinal direction.

As to new claims 13 and 17, both secondary references illustrate bonding patterns comprising at least two spatially separated bonding lines (Figure 2 of Kobiella and Figure 7 of Romanek). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the at least two spatially separated bonding lines as taught by Romanek and Kobiella to the overlapping polymeric strips of Yang to produce a grid with increased flexible bonded regions, maintaining more tensile strength of the strips at the zones of overlap.

As to new claims 14 and 18, Yang (the primary reference) teaches the zones of overlap are formed by longitudinally and transversely crossing polymeric strips. It would

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have been obvious to one of ordinary skill in the art at the time of the invention that with the strips formed in the same manner, each strip would have approximately the same dimensions (i.e. width) and that upon longitudinally and transversely crossing lines same sized strips at approximately 90°, the zones of overlap would be formed having dimensions defined by the width of each strip and therefore the surface area of the zone of overlap will approximately equal the product of each strip's width.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Kobiella and Romanek and in further in view of Foglia et al. The rejection as stated in paragraph 10 of the Office Action mailed December 22, 2000 is maintained and hereby incorporated by reference.

Response to Arguments

9. Applicant's arguments filed July 13, 2001 have been fully considered but they are not persuasive.

10. In response to applicant's argument that the prior art of record fails to recognize that the forces exerted in the longitudinal direction of a first strip in a grid of strips will automatically be transferred, via bonding, to forces acting transverse to the longitudinal direction of a second strip (i.e. in the direction of low tensile strength) at a zone of overlap in the grid between the first and second strips. Consequently, the second strip will split, causing the first strip to split at the zone of overlap due to the entire overlap

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being bonded and that by having spaced bonding lines the strips will be protected from each other when one splits. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). That is secondary references Kobiella and Romanek provide motivation to one of ordinary skill in the art to bond the grid strips of Yang using spaced bonding lines/points so as to provide a more flexible sheet (see Romanek, Column 1, lines 40 – 43) and to insure that the overlapping portions retain all their original strength in the unfused spaces of the overlap and so that the tension stress in the strip can be taken without interruption along the entire length in the unfused spaces (Kobiella; Column 3, line 67 – Column 4, line 12). By bonding the grid of Yang using the spaced bonding line technique of Kobiella and Romanek, the solution to applicant's recognized problem (i.e. protecting the first strip from rupturing when the second strip begins to split) would flow naturally therefrom.

Conclusion

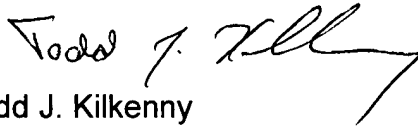
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Todd J. Kilkenny** whose telephone number is **(703) 305-6386**. The examiner can normally be reached on Mon - Fri (9 - 5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers

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for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Todd J. Kilkenny
November 1, 2001


JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300